

Appl. No. : 10/822,424
Filed : April 12, 2004

REMARKS

Claims 1, 3-7, 13, 14, 16-18, and 23-34 were pending prior to the amendments herein. Claims 1, 4, 13, 27, and 31 are amended herein. Claims 3, 26, and 28 have been canceled without prejudice or disclaimer. The Applicants expressly reserve the right to pursue the canceled claims in one or more continuation applications. New Claims 35-37 have been added. Claims 1, 4-7, 13, 14, 16-18, 23-25, 27, and 29-37 are therefore pending.

Specification Amendments

The Applicants have amended the specification to delete the claim of priority to U.S. Patent Application Nos. 10/093,185, 09/877,335, 09/283,024, 10/459,321, 10/302,213, 09/685,934, 60/190,023, 10/238,665, 09/607,567, and 09/201,929. Accordingly, the earliest claimed priority date is March 18, 2003. The Applicants submit that the Office Action, which cited a reference filed on July 2, 1999 (U.S. Patent No. 6,395,152 to Wang), and the Final Office Action, which cited a reference filed on April 18, 2006 (U.S. Patent No. 7,247,577 to Palmgren et al.), did not consider the priority claim when determining which references qualified as priority art against the present application. Thus, the Applicants do not believe that this change in priority necessitates a revised search.

Response to Claim Objections; Claim Amendments

Claim 4 is objected to for reciting, "a third fourth including." As suggested by the Examiner, Claim 4 has been amended to recite, "a fourth isolator." Therefore, the Applicants respectfully request that the Examiner withdraw the objection to Claim 4.

Claim 31 has been amended to correct an obvious typographical error.

The Applicants have amended Claim 1 to incorporate the features of Claim 3 and to clarify the orientation of the passages, and have amended Claim 13 to incorporate the features of Claims 26 and 28. Accordingly, Claims 3, 26, and 28 have been canceled without prejudice or disclaimer. Claim 13 is also amended to provide antecedent basis for the insulation "members."

The Applicants submit that these amendments are fully supported by the application as filed and that no new matter is added by these amendments. *See, e.g.*, ¶¶ [0094], [0101], & [0103] and Figs. 12A & 12C-14B of the present application.

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Response to Rejections Under 35 U.S.C. § 103

Claims 1, 3-7, 13, 14, 16-18, 23-25, 27, 28, and 31-33

Claims 1, 3-7, 13, 14, 16-18, 23-25, 27, 28, and 31-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,143,155 to Adams et al. The Applicants respectfully traverse the present rejection because Adams, either alone or in combination with other references of record, fails to teach or suggest all of the features of the rejected claims.

Claim 1

The Applicants submit that Adams, either alone or in combination with other references of record, does not teach or suggest all of the features of the electropolishing apparatus recited by amended Claim 1. As an initial matter, the Applicants do not acquiesce to the characterization of Adams in the Final Office Action. For example, it is unclear whether Adams provides sufficient disclosure to enable one of skill in the art to add electrode pairs to the disclosed apparatus to increase overall plating rate. However, the distinctions below are sufficient to distinguish Adams from amended Claim 1.

Adams at least does not teach or suggest “wherein the isolators each include a plurality of passages . . . partially defined by the electrodes and configured to allow a solution to flow through the electrode assembly,” as recited by amended Claim 1. Adams discloses an apparatus that routes an electroprocessing solution within an electrode assembly by using fluid lines 520, 540, 560, 580. Based on Adams at Figure 7 and the description thereof, it appears that the lines 520, 540, 560, 580 of Adams extend through the isolators 530, 550, 590, but are not partially defined by the electrodes 510, 570. Instead, the lines are spaced from the electrodes 510, 570 but are in fluid communication with a brush 595 that contacts the bottom of the electrodes 510, 570. Thus, Adams, alone or in combination with other references of record, at least does not teach or suggest “wherein the isolators each include a plurality of passages . . . partially defined by the electrodes and configured to allow a solution to flow through the electrode assembly,” as recited by amended Claim 1.

Therefore, the Applicants submit that amended Claim 1 is patentable over Adams, either alone or in combination with other references of record. The Applicants respectfully request that the Examiner withdraw the rejection of Claim 1.

Claim 3

The rejection of Claims 3 is moot in light of the cancellation of that claim.

Claims 4-7 and 23-25

As described above, amended Claim 1 is patentable over Adams. Claims 4-7 and 23-25 depend from Claim 1. Thus, Claims 4-7 and 23-25 include all of the features of amended Claim 1 and recite unique combinations of additional features not taught or suggested by the cited references. Therefore, the Applicants respectfully request that the Examiner withdraw the rejections of Claims 4-7 and 23-25.

Claim 13

The Applicants submit that Adams, either alone or in combination with other references of record, does not teach or suggest all of the features of the electropolishing apparatus recited by amended Claim 13. As described above, the Applicants do not acquiesce to the characterization of Adams in the Final Office Action. However, the distinctions below are sufficient to distinguish Adams from amended Claim 13.

Adams at least does not teach or suggest “wherein the compressible strips each comprise a material having a closed pore structure configured to prevent solution from flowing through the insulation members and the compressible strips, wherein the elongated contact electrodes and the elongated process electrodes each include a plurality of grooves extending through the elongated contact electrodes and the elongated process electrodes, the grooves configured to allow a solution to flow through the electrode assembly,” as recited by amended Claim 13.

In the rejection of Claim 26 under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of U.S. Patent No. 6,017,384 to Schimion, the Final Office Action characterizes fluid flow in Schimion as being “only flowing parallel with or against the strip travel direction.” Thus, the fluid flow in Schimion is not “through the electrolyte assembly,” as recited by Claim 13. Moreover, the Applicants submit that the combination of Adams and Schimion is improper as it would render Adams inoperable for its intended purpose because a closed pore structure, as allegedly taught by Schimion, would prevent fluid from flowing from the line 520 to the manifold 545 and would prevent fluid from flowing from the manifold 565 to the line 580. A skilled artisan would appreciate that is a reason why the brush 595 of Adams has a “non-conducting, fibrous or open pore porous, and flexible” structure. See Adams at col. 10, ll. 15-16.

Furthermore, Adams expressly *teaches away* from combination with a structure such as taught by Schimion, which arranges electrodes 5a, 6a on both sides of the processed strip 2. See Adams at col. 8, ll. 36-29 and Schimion at Figure 4.

In the rejection of Claim 28, the Final Office Action states that "the elongated contact electrodes/anodes (51) and the elongated process electrodes/cathodes (57) of Adams each include a plurality of grooves (520 and 580, see figure 7) extending through the elongated contact electrodes and the elongated process electrodes (570), the grooves configured to allow a solution to flow through the electrode assembly." As described above, based on Adams at Figure 7 and the description thereof, the fluid line 520 apparently extends through the insulator 530 and that the fluid line 580 apparently extends through the insulator 590. Indeed, this characterization of the fluid lines was used to reject Claim 3. Accordingly, Adams does not teach or suggest that the electrodes 510, 570 include a plurality of grooves configured to allow a solution to flow through the electrode assembly. Thus, Adams, alone or in combination with other references of record, at least does not teach or suggest "an electrode assembly configured to be immersed in a solution," as recited by Claim 13, or "wherein the compressible strips each comprise a material having a closed pore structure configured to prevent solution from flowing through the insulation members and the compressible strips, wherein the elongated contact electrodes and the elongated process electrodes each include a plurality of grooves extending through the elongated contact electrodes and the elongated process electrodes, the grooves configured to allow a solution to flow through the electrode assembly," as recited by amended Claim 13.

Therefore, the Applicants submit that amended Claim 13 is patentable over Adams, either alone or in combination with other references of record. The Applicants respectfully request that the Examiner withdraw the rejection of Claim 13.

Claims 14, 16-20, 27, and 31-33

As described above, amended Claim 13 is patentable over Adams. Claims 14, 16-20, 27, and 31-33 depend from Claim 13. Thus, Claims 14, 16-20, 27, and 31-33 include all of the features of amended Claim 13 and recite unique combinations of additional features not taught or suggested by the cited references. Therefore, the Applicants respectfully request that the Examiner withdraw the rejections of Claims 14, 16-20, 27, and 31-33.

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Claim 28

The rejection of Claims 28 is moot in light of the cancellation of that claim.

Claims 26, 29, and 30

Claim 26

The rejection of Claim 26 is moot in light of the cancellation of that claim.

Claims 29 and 30

Claims 29 and 30 are also rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of Schimion. The Applicants respectfully traverse the present rejection because Adams, either alone or in combination with Schimion, fails to teach or suggest all of the features of the rejected claims. As described above, amended Claim 13 is patentable over Adams. Claims 29 and 30 depend from Claim 13. Thus, Claims 29 and 30 include all of the features of amended Claim 13 and recite unique combinations of additional features not taught or suggested by the cited references. As described above, Schimion does not make up for the deficiencies of Adams. Therefore, the Applicants respectfully request that the Examiner withdraw the rejections of Claims 29 and 30.

Claim 34

Claim 34 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of U.S. Patent No. 7,247,577 to Palmgren et al. The Applicants respectfully traverse the present rejection because Adams, either alone or in combination with Palmgren, fails to teach or suggest all of the features of the rejected claims. As described above, amended Claim 13 is patentable over Adams. Claim 34 depends from Claim 13. Thus, Claim 34 includes all of the features of amended Claim 13 and recites a unique combination of additional features not taught or suggested by the cited references. Therefore, the Applicants respectfully request that the Examiner withdraw the rejection of Claim 34.

New Claims

Claims 35-37 have been added and are fully supported by the application as originally filed. The Applicants respectfully submit that Claims 35-37, which depend from, and include all

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the features of, amended Claim 1, which is allowable as discussed above, are also allowable. Furthermore, the new dependent claims recite further distinguishing features.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants expressly reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child, or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

Summary

The Applicants respectfully submit that all of the pending claims are allowable. The Applicants respectfully request that the Examiner withdraw the rejections and pass Claims 1, 4-7, 13, 14, 16-18, 23-25, 27, and 29-37 to allowance.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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